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(21) International Application Number: PCT/CA00/00100 (22) International Filing Date: 2 February 2000 (02.02.00) (30) Priority Data: 2,260,653 2 February 1999 (02.02.99) CA (71) Applicant (for all designated States except US): LOCKHEED MARTIN CANADA [CA/CA]; 3001 Solandt Road, Kanata, Ontario K2K 2M8 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): JAGGER, Charles, E. [CA/CA]; 46 Foursome Crescent, Toronto, Ontario M2P 1W3 (CA). WILLETTTS, Mark, N. [CA/CA]; 61 Twenty-Seventh Street, Etobicoke, Ontario M8W 2X2 (CA). TOBIA, Micolino [CA/CA]; 25 Ayton Cr., Wood- bridge, Ontario L4L 7H8 (CA). (74) Agent: SWABEY OGILVY RENAULT; Suite 1600, 1981 McGill College Avenue, Montréal, Québec H3A 2Y3 (CA).			(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.

(54) Title: MAINTAINING PERFORMANCE QUALITY OF BROADBAND SYSTEM IN THE PRESENCE OF NARROW BAND INTERFERENCE

(57) Abstract

A method and device which dynamically detects, tracks and filters interfering signals with sufficient speed (i.e. within one IS-95 CDMA data frame period, or 20ms) and fidelity to eliminate or greatly reduce the deleterious effects of narrow band interferor signals on a CDMA link. When inserted in an RF signal path an Adaptive Notch Filter (ANF) detects narrow band interferers above a threshold level within the CDMA signal. Detection is accomplished by continuous scanning of a preset excision band, e.g. a specified narrow band associated with an AMPS system. Detected interferors are then automatically acquired and suppressed. This is achieved by electronically placing a rejection notch at the frequency of the interferors.

Multiple notch filters may be used to simultaneously suppress multiple interferors. In the absence of interferors a bypass mode is selected allowing the RF signal to bypass the notch. Upon detection of an interferor, a switch is made to a suppression mode where the interferor is steered through a first notch section and suppressed. Alternatively, an external control line may be used to select the bypass mode so that the signal is allowed to pass the notch section, regardless of interferor content.

